PROCEEDINGS

OF THE

AMERICAN PHILOSOPHICAL SOCIETY.

VOL. VII. JULY—DECEMBER, 1859. No. 62.

Stated Meeting, August 19, 1859.

Present, three members.

Dr. JOHN L. LE CONTE, Secretary, in the Chair.

A letter was read from Prof. Dickson, dated at Phila. Aug. 5, 1859, acknowledging the receipt of notice of his election.

The following donations for the Library were announced:—

Patent Office Report for 1857. Wash. 1858.—*From the U. S. G.*
U. S. Coast S. Report for 1857. Wash. 1858.—*Supt. U. S. C. S.*
Washington Observatory during 1849, 1850.—*From M. F. Maury.*
Astronomical Journal. No. 126. Cambridge.—*From B. A. Gould.*
Monthly Notices, R. A. Soc. XIX. 8. London.—*From the Soc.*
Proceedings Acad. Nat. Sci. 13. Philadelphia.—*From the Society.*
Journ. Franklin Institute. Aug. 1859. Phila.—*From the Institute.*
Med. News and Library. Aug. 1859. Phila.—*Blanchard & Lea.*
Index Catalogue, Public Library of Boston.—*From Prof. Jewett.*
Supplement, By-laws, 6th Report, &c. of the same.—*Prof. Jewett.*
An. Report N. Y. State Library. Albany, 1859.—*The Trustees.*
11th An. Report, Maryland Inst. Baltimore, 1859.—*From the Ins.*
Sitzungsberichte K. A. Math.-Nat. C. XXIV. B. III. H. No. 5—6, 7, 8, 9, 10. XXVIII B, No. 1—26. Phil.-Hist. C. XXIII. B. V. H. No. 5—10, 1—S. Almanach 8th year, 1858, and Festrede by Karajan.—*From the Academy of Sciences at Vienna.*

A communication for the Transactions, was received from Prof. Loomis, entitled OBSERVATIONS OF THE MAGNETIC DIP IN THE UNITED STATES, by Elias Loomis, Professor of Math-

ematics and Natural Philosophy in the University of the City of New York, and referred to a committee consisting of Prof. Kendall, Dr Bridges and Mr. Lesley.

Pending nomination No. 392 was read, and the Society was adjourned.

Stated Meeting, September 16, 1859.

Present, twelve members.

Prof. CRESSON, Vice-President, in the Chair.

A letter was read from the American Oriental Society, dated New Haven, July, 1859, announcing the transmission of a donation to the Library, and requesting exchanges.

A letter was read from M. F. Maury, dated Washington, Sep. 2, 1859, inclosing a communication from Com. Wüllerstorf, just returned from a scientific voyage of circumnavigation in the Austrian Frigate Novara, entitled, ***Essay upon the determination of the form of the earth by means of simultaneous observations with the barometer and aneroid.***

A letter was read from G. A. Matile dated Phila. Aug. 27, in relation to the publications of the Roy. Acad. at Brussels.

The following donations for the Library were announced:—

Amer. Journal No. 83, September. N. Haven.—***From the Editors.***
Frank. Inst. Journal. No. 405. Sept. Phila.—***From the Institute.***
Med. News and Library. No. 201. Sept. Phila.—***From the Eds.***
African Repos. XXXV. No. 8. Aug. Wash.—***Amer. Col. Soc.***
Astronomical Notices, No. 7, 8. Albany.—***From the Editors.***
Proc. Boston N. H. Soc. VII. 5, 6, Boston.—***From the Society.***
Proceedings Acad. Nat. Sci. 14. Philadelphia.—***From the Acad.***
Proc. N. Jersey Hist. Soc. VIII. 4. Newark.—***From the Society.***
Journal Amer. Oriental Society from the beginning.—***From the Soc.***
Journ. Elliot S. N. H. Vol. 1. 1, 2. Charleston.—***From the Soc.***
N. Y. Mercan. Lib. As. 38th An. Rep. 1858-9.—***From the Asso.***
La Bourgogne, revue Œnologique, 1 liv. Dijon.—***C. Ladrey, Ed.***
Die principien der heutigen physik. Oration by Dr. Andreas, R. von Ettinghausen. Oct. 29, 1857. Wien.—***I. R. Academy.***
Inquiries concerning a charge of interception in No. 124 of Gould's Astronomical Journal, by John Patterson. Albany.

The committee to which was referred the paper of Prof. Loomis, reported in favour of its publication in the Transactions, which was ordered accordingly, and the committee discharged.

The decease of Richard Rush, a member of this Society, (elected Jan. 17, 1817), was announced by Dr. Bache, as having occurred in July last. On motion of Judge Sharswood, it was ordered that Mr. C. F. Ingersoll be requested to prepare an obituary notice of the deceased.

The paper of Com. Wüllerstorf was referred to a Committee consisting of Prof. Kendall, Prof. F. Rogers and Prof. Cresson.

Prof. Cresson made an oral communication on the auroræ boreales, which occurred on the evenings of Aug. 28th and Sept. 1st, and described minutely their various changes of appearance. Remarks were made by Prof. Trego, Dr. Emerson, Dr. Coates and Prof. Lesley.

Pending nomination No. 392, and new nomination No. 393, were read, and the Society was adjourned.

Stated Meeting, October 7, 1859.

Present, fifteen members.

Prof. Cresson, Vice-President, in the Chair.

Letters were read from E. Uricoechea, President of the New Grenada Society of Naturalists, dated Bogota, 10—8, 1859, desiring the publications of this Society;—from Capt. Wilkes, U. S. N. dated Washington, Sept. 29, announcing the transmission of a donation for the library:—from the Conn. Hist. Soc. dated Hartford, acknowledging the receipt of No. 61 of the Proceedings;—and from Col. Graham dated Chicago, Sep. 20, enclosing the following addition to his contributions No. 3.

VII. ASHTABULA, OHIO.

Station.—The centre of the North Public Square, bounded on the north by a lane thirty feet wide, on the south by Division street, on the east by Main street, and on the west by Park street.

VIII. ERIE, PENNSYLVANIA.

At the end of this article, and immediately preceding the closing

paragraph which begins with the words "my duties required me to return to Chicago," &c., insert the following, viz:

From the above determination of the position of our observing station, and measurements therefrom of the azimuths and distances to other points as laid down on a "Map of the Borough of Erie, with the water lots and harbour, made by order of the Burgess and Town Council of the Borough of Erie, in 1837, under the supervision of T. S. Brown, Civil Engineer," we obtain the latitudes and longitudes of said positions within the City and harbour of Erie, as follows, viz:

POSITIONS IN THE CITY AND HARBOUR OF ERIE, PENNSYLVANIA.	North Latitude.	Longitude West of the Meridian of Greenwich.	
		In Arc.	In Time.
1. Centre of the Public Park, or intersection of the axes of State street and Sixth street, produced,	° ′ ″ 42 07 51.5	° ′ ″ 80 05 35.3	h. m. s. 5 20 22.35
2. Steeple of the Court House, north side of Sixth street, between Peach and Sassafras streets, - - - -	42 07 49.3	80 05 45.23	5 20 23.01
3. The Light House, - - - - -	42 08 42.7	80 04 15.7	5 20 17.04
4. The Beacon Light at the lakeward end of the U. S. west pier,	42 09 16.7	80 05 07.5	5 20 20.5
5. Stone monument (supposed to have been placed by Andrew Ellicott), at the west corner of Parade and Front streets, inscribed as follows, viz: "1795 Lat. 42° 08′ 14″ Var. 0° 43′ E." - -	42 08 20.8	80 05 17.2	5 20 21.15
6. Depot of the Erie and Buffalo Rail Road, (the Passenger-house),	42 07 19.8	80 05 21.6	5 20 21.44

XXIII. CLEVELAND, OHIO.

In lieu of the last page under this head, substitute the following:

According to the above, we give as the approximate positions of other points in Cleveland, the following, viz:

POSITIONS IN THE CITY OF CLEVELAND, OHIO.	Approximate North Latitude.	Approximate Longitude West of the Meridian of Greenwich.	
		In Arc.	In Time.
1. The new Court House, - - -	° ′ ″ 41 30 05	° ′ ″ 81 42 06.1	h. m. s. 5 26 48.4
2. The Light House, situated at the southern corner of Water and Lighthouse streets, - - - - -	41 30 07.6	81 42 31.5	5 26 50.1
3. The Beacon Light at the end of the U. S. harbour-pier, - - -	41 30 16.5	81 43 01.1	5 26 52

Capital should read *Capitol* on pages 105 (line 26), 106 (bottom line), 108 (lines 2, 3, 6), 115 (lines 21, 22), 117 (lines 19, 20, 24), 119 (lines 2, 3, 11), of Proceedings No. 61.

The following donations for the Library were announced:—

Astronomical Journal, No. 127. Cambridge.—*From the Editor.*
Journal Acad. Nat. Sci. Philadelphia, IV. 2.—*From the Academy.*
Observations on the Genus Unio. VII. 1.—*From Isaac Lea.*
Quarterly Journal, Royal Dublin Society. XIV.—*From the Soc.*
Quar. Jour. Chem. Soc. XII. 2. (XLVI). Lond.—*From the Soc.*
Annales des Mines. XIV. 6 liv. of 1858.—*Ingenieurs des Mines.*
Estatutos . . . S. N. Neo Granadinos.—*From the Society.*
Med. News and Lib. No. 202. Phila.—*From Blanchard & Lea.*
Amer. Jour. Med. Sci. No. LXXVI.—*From Blanchard & Lea.*
Report on Deep River by Capt. Wilkes, 1858.—*From the Author.*
Geol. R. on S. W. Br. Pacific R. R. by Swallow.—*From the Author.*
Recherches sur l'origine des roches; Delesse.—*From the Author.*
Caloric; by Dr. Metcalfe. 2 Vols. Philada. 1859.—*Dr. F. Bache.*
Essais sur l'hygrometrie; Saussure. Neuch. 1783.—*Dr. F. Bache.*

The decease of the eminent botanist, Thomas Nuttall, a member of the Society (elected Oct. 17, 1817), in Lancashire, England, Sept. 10, 1859, was announced by Dr. Bache, and Mr. Durand was requested to prepare an obituary notice of the deceased.

A quorum for the enacting of laws not being present, the special business of the meeting was postponed.

A communication was presented for the Transactions, entitled Analytical Orthography; An Investigation of the Sounds of the Voice and their Alphabetic Notation, *by S. S. Haldeman, A.M.*, which was referred to a committee consisting of Prof. Lesley, Dr. Le Conte and Judge King.

On motion of Mr. Foulke, it was resolved that the amendments of the By-Laws shall be the special order of each stated meeting until finally disposed of.

Pending nominations Nos. 392 and 393, were read.

On motion of Mr. Trego, it was resolved that the Society of Naturalists of New Grenada, at Bogota, be made a corresponding Society; and the Society was adjourned.

Stated Meeting, October 21, 1859.

Present, fifteen members.

Dr. Wood, President, in the Chair.

Letters were read from the Hist. Soc. of Penna. dated Oct. 10:—from the Rhode Island Hist. Soc. dated Oct. 4:—and from the Bost. N. H. Soc. dated Oct. 6, 1859, acknowledging the receipt of the Proceedings.

The following donations for the Library were announced:—

Astronomical Journal, No. 128.—*From the Editor.*
Monthly Not. Royal Astron. Soc. XIX. No. 9.—*From R. A. Soc.*
Proc. Boston Nat. Hist. Soc. VII. 7, 8.—*From the Society.*
Journal of the Franklin Institute, No. 406.—*From the Institute.*
Proceedings Acad. Nat. Sci. 5-19, 1-2.—*From the Academy.*
African Repository, Oct. 1859. No. 10.—*From the Amer. Col. Soc.*
Cat. Off. and Students, Harvard Univ. 1859-60.—*From the Univer.*
Providence School Committee An. Rep. 1859.—*From the Committee.*
Chart of Canal de Haro, &c. Washington T.—*From Major Bache.*
Tavole . . Vecchia Moneta Tuscana, Fir. 1826.—*Prof. Haldeman.*
Della Campagna di Roma. By Reumont, 1842.—*Prof. Haldeman.*

The Committee, to which was referred the paper of Prof. Haldeman, reported in favour of its being printed in the Transactions, which was ordered accordingly, and the Committee was discharged.

The decease of the distinguished naturalist, Thomas Horsfield, a member of this Society (elected Oct. 16, 1829), at London, Sept. 1859, was announced by Dr. Leidy.

The decease of John Y. Mason, representative of the United States at the Court of the Tuilleries, a member (elected April 16, 1847), at Paris, Oct. 3, 1859, was announced by Prof. Trego.

A communication was presented for the Transactions entitled: Revision of the Buprestidæ of the United States, *by John L. Le Conte, M.D.*, and referred to a committee consisting of Prof. Haldeman, Dr. Ruschenberger and Dr. Leidy.

Prof. Lesley presented for publication in the Proceedings a paper, entitled, On the Insensible Gradation of Words.*

Mr. Lesley brought before the notice of the members present, a measured and leveled section of the Geology and Topography

* See page 129.

of Kentucky made across the eastern part of the State, from Greenup County to the Tennessee State line, by Jos. Lesley, Jr., Asst. under the direction of Dr. David Dale Owen, State Geologist, in the summers of 1858 and 1859;—and described its most remarkable features along the western outcrop of the eastern coal field.

Nominations Nos. 392, 393 were balloted for, and new nomination No. 394 was read.

A quorum for the enacting of laws not being present, the special business of the evening was postponed.

The ballot being scrutinised, the following persons were declared duly elected members of the Society: —

Judge Henry Carleton, of Philadelphia.

Dr. Wm. A. Hammond, U. S. A.

And the Society was adjourned.

Stated Meeting, November 4, 1859.

Dr. Wood, President, in the Chair.

Present, sixteen members.

Letters were read from the R. A. Dijon, the R. S. Göttingen, the R. Geog. S. London, the R. S. London, the Mass. H. S. acknowledging the receipt of Proceedings Nos. 57 and 58;—from the Mass. H. S. Worcester, the P. H. S. Philada. and the State Librarian, Harrisburg, acknowledging the receipt of Transactions, Vol. XI. Part 2;—from the R. P. A. Berlin, acknowledging complete sets of Transactions and Proceedings;—from the N. H. S. Emden and R. P. A. Berlin, announcing the transmission of donations for the Library;—from the Librarian R. L. Rio de Janeiro, and M. Brockhaus, dated Leipsig, Nov. 10, 1858, informing the society of new arangements for correspondence with Brazil and South America.

A letter was read from Henry Carleton dated Philada. Oct. 24, 1859, acknowledging the receipt of notice of his election.

The following donations for the Library were announced:—

Greenwich Observations for 1857.—*From the Royal Society. Lond.*

Teneriffe Astron. Exper. Lond. and Edin. 4to. 1859.—*From R. Soc.*

Maxima and Minima, solved by Algebra, by Ramchundra. (200 pp.) 8vo. London, 1859.—*From the same.*

Proceedings R. S. London. Nos. 32 to 35. 8vo.—*From R. Soc.*
Philos. Trans. R. S. London. Parts I. II. 1858. 4to.—*From R. Soc.*
List of Members, 30th November, 1858.—*From the same.*
Report of the Joint Committee of R. S. and B. Ass. for procuring a continuance of the magnetical and meteorological observations, (16 pp.) 8vo.—*From the same.*
Proc. R. Geog. S. Lond. Vol. III. Parts III. IV. V.—*From the Soc.*
Peelpark R. Mus. and Lib. 10th An. Rep. (40 pp.) 8vo. Manchester.
Journ. Bath and W. E. S. 1859. Vol. VII. London.—*From the Soc.*
Proc. Geol. and Poly. S. W. R. York. 1858-9. Leeds.—*From the Soc.*
An. Rep. Leeds Phil. and Literary S. 1858-9.—*From the Soc.*
Journ. R. Dublin Soc. Nos. XII. XIII. 1859. Dub.—*From the Soc.*
Journ. R. Asiatic Soc. Vol. XVII. Part 1. Lond.—*From the Soc.*
Jour. S. Arts and I. in U. April–Aug. (May wanting.)—*From the Soc.*
Atlantis. No. II. III. IV. July, 1858–July, 1859. Lond.—*C. U. Dublin.*
Mém. Acad. I. Dijon. 6 vols. (1857.) Paris.—*From the Academy.*
Verhand. Natur. Ver. Bonn. 14 J. 2, to 15 J. 4.—*From the Univer.*
Jahresbericht 44th Natur. Ges. Emden, 1858.—*From the Society.*
Nachr. G. A. Uni. 1858, No. 1–28. Göttingen.—*From the Uni.*
Verhand. Gartenbau. 6 J. 2 h. No. 1–14. Berlin.—*From the Union.*
Monatsb. K. Preus. A. Berlin. July, Dec. 1858.—*From the Acad.*
Meteor. Inst. Berlin. Weather Tables for 1855–8.—*From the Inst.*
Jahrbuch K. K. Geol. Reichsan. 1858, IX. 4.—*From the Institute.*
Mittheilungen K. K. Geog. Gesell. 1859, III. 1.—*From the Society.*
L'Acad. Paris, Compte-Rendu. April, 1855.—*From the Academie.*
Trans. Acad. Sci. St. Louis, 1859. I. No. 3.—*From the Acad.*
Hartford Asylum. 43d An. Rept. May, 1859.—*From Directors.*
Hartford Retreat. 35th An. Rep. April, 1859.—*From the Officers.*
Gen. Ass. Conn. Minutes, June, 1859. N. Haven.—*From the Soc.*
Method of studying Physiology. J. A. Meigs.—*From the Author.*
Description of Skull from Jerusalem. J. A. Meigs.—*From the Aut.*
Cat. of Mammalia in the Museum H. E. I. Co. Calcutta. London, 1851. By Thos. Horsfield.—*From the Author.*

The Committee to which was referred the paper of Dr. Le Conte read at the last meeting reported in favour of its publication in the Transactions, which was ordered accordingly and the Committee discharged.

A quorum for the enactment of laws not being present, the special business of the evening was again postponed.

Pending nomination No. 394 was read, and the Society was adjourned.

On the Insensible Gradation of Words, by J. P. Lesley.

What practically happened years ago to every *fossil*—namely, to be studied in isolation, its surroundings and alliances unknown, is still to a great extent, the fate of those fossils of the intellectual world, *words*. When a word spoken by the people on this side of the globe is seen or heard to be like a word spoken by the people on the other side, if the meanings attached to its duplicate utterance can be allied, and especially if several such alliances can be catalogued, although merely as bald facts, ethnological reasoning upon origins and migrations is at once proceeded with. It cannot be denied that the science of comparative philology, although by no means in its infancy, labours under the defects of this rude method. Its grammars indeed are getting to be finished and proper tools for the scientific workman, but its vocabularies are still of a barbarous and impracticable kind, mere museums of popular curiosities. It still remains a subject for future demonstration, that in philology, as in palæontology, the boundaries of genus and species are to be accounted conterminous; that the organic forms pass into each other by almost insensible gradations; and that not by hazard but by plan; and finally not by a plan dependent upon the merely accidental variation of radical elements, but on a plan of the variable and alternate development of members of a complex structure.

Philology, as to its history, has three departments. First, the purely organic, containing all such involuntary or animal utterances, as the different species of men make, for the same natural reason that different species of animals quack, cluck, crow, scream, bark, bray, howl or roar, each with sounds fixed by the quality of its organs and by the emotions of its inner nature. It is to be expected that the child's organs will utter modifications of a given sound uttered with the same intent by an adult; and that one child will prefer guttural and another child labial utterances. It is reasonable, also, to expect that the African, the Malayan, the Esquimo, the Germanic groups of languages will be radically characterized by different soft and hard expressions, by liquid prefixes or guttural affixes, by sibilants, chucklings, and murmurs of their own, as we find they actually are. The study of this department has been vigorously prosecuted in one direction by able men, among whom, in this country, Kraitzer and Haldeman may be named as taking the lead. These have pointed out a multitude of true natural expressions. They tell us, for instance, that the Latin ex, K, S, and the English ou-t, may

be known by the very sound itself to mean expulsion from the inside outward. And so of many other words. But the range of this investigation has been hitherto kept narrow by the neglect of the other direction in which these studies should move on. No one has yet seriously taken up the true characteristics of natural language, such as the clucks of Oregon and Caffraria, the final K of the hypoborean race, the infantine TL of Mexico and other local regions, the softly vocalized finals of Southern Europe, the utter abandonment of the Polynesian race to vowelism, the monosyllabic humour of the Sinitic stock, to study these in the same spirit with which Gardner and Nuttall studied the sounds of birds; to study them, in fact, in connection and in harmony with other specific differences of men not as *men*, but as *animals*. Yet until this is done, comparative philology has obtained no starting point.

The second department of philology is that of pure Bardic or Mythologic words—words which are to be studied as *inventions* and not as *involuntary organizations;* to be regarded truly as fossils, scattered, fragmentary, inverted, pseudo morphed; and, when understood, instructing us far more likely about migrations of mind than of body; rather about the exodus of priesthoods and sects than of races; about a picturesque, mysterious propaganda of symbols by priests and their initiated, and not about the carriage of household sounds, war cries, or love whispers, from one locality or habitation to another, by men still half animals.

And the third department of philological investigation deals with these same empirical constructions, these originally crystallized bardisms, not in their first forms, but in their secondary or sedimentary condition, as words broken down, pulverized, readjusted and cemented; as words with some of their elements abstracted and with new elements infiltrated; tinged by climate and social habits, and metamorphosed by the logic, art and science of successive generations. To use a geological simile, there are many *primary* regions of philology like Bretagne and Western Ireland, Northern Spain, Dalmatia and the Caucasus, Ceylon, New Holland, or any other remote and secluded lands, where the elementary sounds of the ancient wordmakers still present themselves for comparison and analysis almost in their original phases. On the other hand most of the languages of the world and all the languages of the historic, artistic and scientific nations are of a genuine *secondary* order and need to be studied first as to their grosser ingredients, and these again secondly in a finer analysis. And one object of the charts presented here is to show in

reference to this last, that a few elements of a primary order are everywhere employed in language as in chemistry, to construct elements of a second order and a third and a fourth, by a few simple laws of change, in such a series of gradations, that any word out of the thousand used commonly by any people may be selected indifferently and discussed with the same results as any other word; that even any given compound word will be found present in some well recognized form in nearly all the languages known, and yet will have different meanings in most of them; that there is therefore not the most distant approach to a common or universal language for all mankind beyond the fact that all use the same elements in the same endless round of composition, and cannot get out of this round; that the presence of the same words in two or more languages is therefore no prima facie evidence of kinship between the two or more tribes speaking those languages; that, therefore, ethnology cannot be considered as having yet taken hold of philology as one of its tools by the right handle, or turned it to any useful purpose beyond the determination of very local questions. It can be shown, probably, that the study of philology must be distributed between—first, a strict investigation by expert naturalists into the primary animal sounds made by the species or varieties of mankind; secondly, an investigation of those words in hieroglyphic, classical and mediæval history and mythology which remain to represent those old introduced non-animal, transcendental ideas by invented signs, by arbitrarily attached sounds, and by mysteriously arranged syllables; and thirdly, the classification of all words used to express such ideas in modern times, according to the laws now so well understood and obeyed in the study of chemical elements, fossils, and objects of the actual nature.

The charts appended to this paper will speak for themselves in explanation of these views. They represent the gradual passage, through groups of forms, of the names which mankind have given to the five objects, MAN, HEAD, HAIR, HAND and STONE, in 200 languages, more or less. They have been made up from the Russian Comparative Vocabulary of Catherine I, from the Mithridates, from Comparative Vocabularies of the dialects of the Caucasus, from Hale's Volume of the Exploring Expedition, and a few other sources of information open to all. Very few of the African words, however, are given, and only enough American words for comparison, as the object was to illustrate the subject, not to furnish a perfect specimen. In selecting letters the expression of the sound has been kept in view as the primary object, where it did not conceal the graduation. Hence

K is used for C, TJ for Tsch, &c. but no rule has been exactly observed throughout. Sometimes Sh is expressed by S, at other times the importance of the H is shown by writing it in full.

The chief design has been to show how by prefixes and affixes, by the dropping out of medials, and the rejection now of the first and now of the last element, an almost infinite series of changes not only can be permitted, but have actually realized themselves in the languages and dialects of the earth; how that no idea can be technically said to be expressed by man labially, or dentally, or gutturally, or nasally, seeing that the very same series of dissyllables which in one direction ends in a single labial, is sure, when followed in another direction, to end in a dental, and when followed in a third direction, to end in a guttural or nasal; while the very same simple guttural, dental, or labial, reappears in the different series as a vehicle for different ideas. To illustrate by an example or two:—

HAlR, from such double full forms as GURuGURu (197), CyPy' HUiR (153), tJe'RaChe'R (159), &c., passes down through one long range of changes to become a simple labial Fa (164), and through as long a range of changes in another direction, to become a simple dental oT (69). MAN passes on from similar full forms down to such simple forms as Mo, Tshu, or χoi. STONE becomes To, Ko, aL, aN, iSH and öFe. On the other hand, and to illustrate the other phase of the law, CaLGaSSen (137) means Hair,—KuDaCeS (58) means Man,—and CiT'XiN (158) means Head. MieZ (56), MeS (57), mean Man, while MaZda (171), MaZ (107), mean Hair. HaiR in English and XeiR Hand in Greek, GoiR Man and KeR Stone, cannot be distinguished philologically. Many other like instances will appeal to the eye, without further remark; and would be innumerable had we some scores of such tables made out.

It follows, from facts like these, that two theories respecting the great body of monosyllables must be adopted. First, they do not belong to the organic primary sounds by which our involuntary animal nature utters itself, and so their study in that department will be a failure. It is evident that a *stone* or a *bird* cannot relate itself indifferently to *all* the organs of speech in turn, if *that* be the kind of relation by which it gets itself named. If, for instance, its original organic name, not invented but simply exasperated by all mankind unconsciously, be TO, then it could not be KO, nor could it be ISH, nor AN, nor öFe. Are these then alterations? but if that be once granted, the science of Comparative Philosophy commits suicide. Secondly, the great body of monosyllables so far from being originals

are fragments. All language is a breccia, or rather it resembles the great fossiliferous lime-rocks of the coal measures, full of the parted joints of encrini, once connected into living, waving, propagating stems and flowers of stone. In the construction of charts like these one can see how the stems came to be disjointed, and the isolated discs to be so strewn hither and thither among the secondary sediments of speech, the dialects of different tribes. To illustrate this: here is one actual formula of fragmentation.

G	U	Ru	G	U	Ru			197
	U	Ru		U	Ru			
		Lo		U	Ru	Hair		196
			H	U	Ru			191
				U	Ru			196

Here we have the reduplicated form of the compound guttural, labial and lingual, and the dropping away of one part after another, until nothing but the end remains.

The selection of these five particular objects of speech was made because they are among the most familiar to men, and have simple or unequivocal meanings, and therefore ought to be named alike in all languages, if such a fact were possible. Yet we see how they merely play different groups of runs upon the same gamut. They were selected also as good examples of a principal or type arrangement of the elements in the full form, Ka Ba Ra Ta, the historical meaning of which I have endeavoured, in papers read before the American Association, to illustrate. There are undoubtedly many such type forms, all of which can be wrought out by this method of visible classification.

The positive results to be arrived at then seem to be these—1. The same radical sound, Ba for example (modulated of course as Pa, Fa, Va, Wa, Ma), can be found in a large majority of languages, standing as a name for a majority of the objects of thought expressed by speech.

2. In the midst of this apparent wilderness of confusion, a very evident order will come to view, when all the sounds employed to represent one idea are classified in vertical columns; and this order will consist in their various *groupings*. Each idea is indeed expressed by all the signs known to the ear of man, but is *most often* expressed, or in other words is expressed by *the greater number of mouths*, in one kind of way, that is, by one group of analogous words larger than all the other groups. The idea will be recognised as having, so to speak, a greater run upon one set of elements or combinations. And we may hope that as Lesquerox has succeeded in recognizing each

successive coal bed, not so much by any individual fossil, as by some different group of plants, the plants themselves being nevertheless found in higher and lower beds than the one so marked, we in like manner will be able to distinguish languages ethnologically by this grouping of forms of words common to all, under special ideas.

3. Charts like these prove the reality of certain facts in philology sometimes doubted; the reality, for instance, of *derivative reversion;* as in the Greek λογ, Hebrew קול; Go-bo-l, becomes Go-lo-ba, &c. This will be of importance in discussing the kinship of neighbouring nations with inverted names such as Dorians and Rhodians, Italians and Latins, Berbers and Arabs, &c. I have pursued my own researches for some years with this in view as an established fact, that the boustrophedon manner of writing is a reality in etymology and ethnology, as it was in mythology and common history. It made no difference to the inventor of a word whether one symbol or another came first, for he did not write to express a previously known sound (as we do), but set down the symbols of his ideas and afterwards *accepted* the sounds they gave him. In other words, in this department of philology letters make words and not words letters.*

4. It seems to be evident that the liquids and dentals, as a rule, *replace* each other not by *alteration* but by *alternation*, for none of these columns worked well until the L's and R's were put under one head and the Ts, Ds and N under another. There are, of course, many exceptional cases of true organic mutation.—In like manner it seems clear that the terminal NG of many languages is not a mere nasality, but that the G is the relic of a lost syllable beginning with a guttural.

5. The loss of consonantal elements is seen to be indicated by the presence of diphthongs or groups of vowels, and especially by the concentrated diphthongs O and U. Also, the fact appears that not only any diphthong, but any strong vowel, can in time come to replace not the labials only but any one of all the consonants; and our only salvation from this utter confusion to result from such a law—a veritable law of disorder or decomposition—is a systematic and general classification of words, not according to men's theories of etymological relationships, but in a mechanical way, as we classify fossils and

* Dr. Pickering has drawn my attention to the curious adventure, reported by Hale, of certain New Zealand savages who were drifted to another and distant island, and commemorated their salvation on its shores by deliberately reversing their whole vocabulary, pronouncing every word backwards.

minerals, in tables and in columns, to let their groupings reveal themselves, and then we can begin again with our philological arguments on ethnology.

Some of the Changes through which the Word **STONE** *passes in*

| | | |

Ce T Rus	12	Susdalian (Europe)	
Ha DzaR	85	Arabic	
Ge Je R			
Hi Ntzo Zo	118	Andŭ (Siberian)	
Gi T	(152)	Lumpocol ,,	
Co Du	(27)	Romance	
Ge D Ca	58	Lopar (S. Russian)	
Ca i LLe			
Ce Ra	116	Tuschet	Siberian Tartar
	115	Ingreshet	
Gu R	45	Albanian (Greece)	
Gu L	53	Lesquiz-dido (Caucasus)	
Ca Lo C	16	Irish	
Ca La Zh	17	Gaelic	
Ca RreG	(18)	Welsh	
Tu La K	114	Tschengis Tartar.	
u Ju Ra K		Greenland Esquimaux	
Ro CCo	24	Neapolitan	
Ro CK		English	
Te R P		Comanche	
Cu	66	Vogul	Russia N. E.
Cy	(63)	Tscherimiss	
Cj e	47	Wenger (Hungary?)	
Ce i	(40)	Dutch	
Cj Ui	(63)	Tscherimiss (Russia N. E.)	
Ce U	(71)	Oseti, 2.	Caucasus
Ci B	70	Oseti, 1.	
Co B	(67)	Vogul, 2.	Russia
Ce B	61	Mord	
Ce B	62	Moscow?	
Ci Bi	56	Corel	
Ci Bi	(55)	Ostland	
Ci Bi			
TShiBi	54	Tschjochous	
TSi Bi			
Ci BBi	(55)	Ostland	

Ta	NGa	131	Taigin } Polar-Russian					
Ta	NGaiT	(130)	Carassin }					
Tu	NuNG		Lake Macquarie (N. Holland)					
De	Nai	123	Samoiede	Tschuktsch N.W.Am.		Ui	Ga	K
i	NGa	142 } Tungus		Armenian	(107)		Ga Ca	R
i	Na	141 }		Maltese	86		Ha G	Ra
Sa	NGa	(177)	Malabar	Abassinian	113		HauC	
Se	NG }	76	Persian	Abassinian	112		Ha C	
Sa	NG }			Illyrian	(3)		Cu C	
Se	NC	77	Koord	Osetian, 3, 4.	72		Co χ	
Se	NG	102	Bocharian	Osetian, 5.	74		Cuuχ	
Sa	Xum	(22)	Latin	═══Romance	(27)		CoCS	
Sa	SSo	(23)	Italian					
Shi	Sh	149	Cotob } Asia					
Shi	Sh	150	Assan }					
Shi		164	Chinese (Cipaisk)					
i	Sh	161	Japanese (Eponsk)					
Zha		(146)	Tschapogir N. E.					
i	Z	59	Zuren Asia.	Cabarda			My Vy	
i	Z	60	Permian	Caucasian	111		My VVa	
i	Z	65	Votet	Camashin	132		Fi	
Tsi	S	(27)	Romanch	Carassin	(130)		Py	
TshyS		152	Lumpocol	Samoid	(128)		Py	
Tye	S	151	Inbat	Coibal	133		Pi	
Ta	S	88	Turian	Samoid	127		Po	
Ta	S	89	Kasan	Samoid	129		Po	
Ta	S	90	Mestsh.	Osetian	(75)		Pj u	
Ta	S	91	Bashkir	Samoid	(123)		Pu i	
Ta	S	92	Nogai	Polynes.	197		We i	
Ta	S	93	Rodac	Samoid	121		Pa i	
Ta	S	94	Tobolsk	Samoid	120		Pa o	
Ta	S	95	Tshatsc				Pa Co	
Ta	S	96	Tschol.	Manchu	163		Fe χe	
Ta	S	98	Cusnet	Tschjoc.	157		Fu Go N	
Ta	S	99	Barab					
Ta	S	101	Teleutsch					
Ta	S	103	Khivan					
Ta	S	104	Kirguis					
Ta	S	105	Turcoman					
Ta	S	106	Ecut					
Ta	Zh	97	Enesei Tartar					
°χ To	S }	58	Vogul on Tscherdyma					
°χ Ti	T }							
Ge	T So	48	Abari Caucasian }					
χ'	T So	51	Lesquis dzar }					
i	T So	52	,, χunzag }					
°χ	Ty T	69	Vogul on Berezou					
°χ	To T	67	,, on Bercotursk.					
Ho	Ta Tai							
Te	Te Te		Cora (New Mexico)					
Te	TL		Mexican					
Te			Koljusch N. W. coast America					
i	Ta		Brazil (3 dialects)					
To	i	(128)	Narymscargo ocruga (Samoyed)					
To		(71)	Ostet on the Naryma (N. Russia)					

Ci	Pa			87	Assyrian		
Ce	Fo			84	Syrian		
C	Ua			109	Imeretian (Caucasus)		S. E. Asia.
Ce	Fa			110	Cuban ,,		
Ce	Fa			108	Cartalin ,,		
Ce	Fa	R		(107)	Armenian		
C	Ua	L		155	Corean		N. E. Asia.
C	Ua	Li		159	Kamschatcadale, 2.		
Gi	Be	R			Sidney		
	Bu	Ra			Muruya		
	Ma	Ra	Ma		Peel River		New Holland
	Yu	Ru	BaNG		Bathurst		
	Wa	La	NG		Wellington		
	Ba	Re		166	Tsygan (Himalaya?)		
	Be	R		(177)	Malabar (India)		
	Me	a	N	19	Cornish		N. W. Europe
	Ma	o	N	14	Breton		
	Ma	o	N	(18)	Welch		
aC	Mu	o		42	Lithuanian		
aC	Me		NS	(43)	Lettish		
aC	Me		NS	44	Crivingo Livonian		
Ca	Mj	e	N	(3)	Polish		
Ca	M	me	N	(3)	Illyrian		
Co	Mi		N	8	Polabsk		
Ca	Mi		N	0	Russian		E. Europe.
Ca	Mi		N	1	Old Schlavonic		
Ca	Mi		N	4	Bohemian		
Ca	Mi		N	5	Serbian		
Ca	Mi		N	6	Wendish		
Ca	Mi		N	7	Sorabish		
Ca	Mi		N	11	Malo-Russian		
Ca	M		N	2	Slavo-Hungarian		
Ca	M			9	Cashub		
Gu	FF	o	N	153	Corean (E. Asia).		
Oi	F	e	N	82	Zidonian?		S. W. Asia.
a	F		Nu	83	Chaldee		
ö	F	e	N	81	Hebrew (אבן)		
ö	F	e		(27)	Romanch (S. Europe).		
Ko					Hungarian	Stone	
Ko	Va					Flint	
Ko	Mo	C				Sand	
Kö	Ve	CK				Gravel	
	Oo		Ne		Sahidic Coptic		
Pi,	the	o	Ne		Memphite Coptic		
masc.	artic	o	Ni		Sahidic Coptic		
		e	Ne		Coptic		
Pi,	,,	aL					
	A		N		Egyptian (Bunsen Vol. 49).		

Before passing to another example, a few words seem necessary here. It is evident that the scheme of radicals to represent the above table of words is the following:—

T
P
LP
LPT
PT
PTR
TR
TRN
(TRP) once
TR K
R K
K
KB
KBR
BR
K R
K RK
K K

It is equally evident that this scheme would be improved, if it were not actually completed, had we the words meaning *Stone* in all the other languages of the earth, four hundred more or less. In which case assuming only the three principal contacts and keeping within the range of triliterals, it might be represented thus:—

P
PT
PTK
P K
TK
TKP
T P
KP
KPT
K T
TK T
P KP
P P
KP P
KP K
K K
K
K TK
TK T
T T
T

But if, as we see by the above chart would take place, instead of only the three primary contacts P, T, K, we must add the lingual L or R as distinct from T, and in fact a fourth primary element, while N plays a prominent role as primary grammatical affix, it is easy to imagine the great extent to which the perfected scheme will descend. The point of remark, however, is this:—the scheme is not one made up artificially like a row of arithmetical numbers or algebraic figures, to see how many different compounds of three or four or five elements exist ***arithmetically*** in the abstract; on the contrary, it results from a process of alternate growth and decay, of alternate additions and elisions, or of alternate expansions of expression and contractions, under the influence of two very different, opposite but co-ordinated laws of speech, by one of which the human mind endeavours always to enlarge and make more precise its words for better comprehension, and by the other to shorten and sweeten them for use. Thus language has a phyllotaxis of its own, by which its stem is regularly occupied to the utmost possibilities of the occasion.

As to the aboriginal meaning of these words for STONE, or which came first, or what radicals are original prefixes and what are affixes, these are recondite questions not involved in this discussion, and perhaps impossible to answer.

It may, however, not be uninteresting to point out as a possible key to some of these riddles, the form PTR, P'TL, contracted to P'R, P'L, (Romance ***Peiro***, Coptic ***Pial***, c. Boina, Piorna, Pjun, Fualla, &c. &c. in the chart), which explains at all events the Greek πετρα, as P- Tor, the tor, the tabor, the taurus, the tower, meaning ***the rock*** or stone; and shows why the Apostle of the keys was chosen to bear the church. The sermon was on the mount. But these suggestions are foreign from the subject of this paper.

The Greek λιθος seems to be as true an inversion of tor, or tel, as the Tangutch RTo evidently is. And here mention cannot be omitted, however casually, of the intimate mythological connection between the ideas of STONE and MAN in language. RT was the Egyptian, ROT the Coptic word for both, while ReT meant form, species, sculpture; and herein lies the explanation: the principal bardic use of stone was to represent the human form divine, whether in sculpture on the native rock or propylon wall, or as set up in ambrose stones alone or in circles, or as termini, caryatides, images, or columns in the temple. Idolatry being ancestral worship, the stone PaTaR had the same name as father, πατερ, and all standing stones were legendary giants, or patriarchs turned to stone in some past age of human magic

or divine wrath. Yet in the next chart which gives the words for MAN in the same languages (designated not by their names but by ciphers to save space) the whole grouping of the chart is different. A different aspect pervades the columns, and the prevalence of certain forms stamps a peculiar character upon the series.

Some of the Phases of the Word MAN.

Ma N	32, 36
Ma Na	30
Ma Nd	37)
Ma DuR	38
Me NeSCia	
Me NeSCe	37)
Me NiSC	31
Me NiSCo	33
Me N SH	
Mi e NiSHa	39
Me N SH	35, 40, 51
M I N SH	34
e NaSH	83)
e NoSH	84
NaSHa	17
I N SHaN	8
I N TH	85)
I SH	81)
O I D TS	163)
a I Nu	162
Mo No	Japan
Ma Nii	165
a I T	192
V I To	161
F I To	
Pa D SuL	85)
Ma Ni TSeN	177
M I Ni Ha	174
Ma NuSHeN	178
Ma NuSia	183
oRaN G	
BaaRaN G	194
Boo N	184
Ma NuSH	179, 166
Ma NuSH	169
Mu R D	
MuuR D	168
Me ReTe	170
Me SHio	
Me S	57
Mi e Z	56
Mo u T Z	29
BahaR SHi	51, 52
BahaR SH	50
Mu R D	65
Mu R T	60
Mo R T	59
Ma R T	107
Ma R D	—

			Mu	Ru	F	77
			Ma	Re		110
			Ba	Io	L	139
			Bo	Io		140, 146
			Ba	Io		141
			Bo	Ie		142, 138
			Ba	I		143
			By	I		144
			Be	I		145
			Bo	ı		140, 139
			Ba	R		13)
			Fa	R		16)
			Vi	R		Latin
			Be	R		47
			B	Re		25
			Mo			Old Irish
			Mo			Mandingo
		o	M			46
		o	Mo			23, 24
		Ho	Me			28
		Cu	M			69, 127, 128
		Cuu	M			126
		Cu	B			75, 130
		χy	B			129
		Ge	Va	R		83
		G	Oi	R		13)
	N	G	Uo	I		182
	TaN	Ga	Ma			191
	i	Gue	B		Na	171)
	i N	Ge	Mi		N	54
	i	χ	Mi	ni	N	
	i N	Ge	Mi		Ne	56)
	i N	ne	Mi		Ne	55
	eN		Me		T Shi	123
	NeN		Me		T Sh	122
	aL		Ma		T S	56
	uL		Mu		T S	
	Lo		Ma		N	61, 62
	NeL		Ma			163)
	Se Ra		M			175)
	Se Ro		Ma		aN	193
	SoNo N		Ma		N	189
	Ne Ne				T SHe	121
	MeNe				T SH	
	eN Ne				T SHe	124
	NiiNe				T S	120
	Lu				T S	
	TeN Ga				Ta	200
	Te Ga				Ta	197
	Te Ha				Ta	196
	T a				Ne	
	Ti				Ti	198
		Ho	Ie		T	70
		Ho				
		Gu	I		ZoN	15
		Gu	I			70
		aGu				113
		Gu				112
		Ca			Zi	72
		χo				

Ca	Za		132, 134
χa	Sa		131
Ce	Se		104, 102
Ci	Si		106
Ci	Shi		92, 94)
Cy	Shy		95, 97, 101, 120
Cy	She		91
Cu	Shy		98
Cy	Zhe		99
Ga	Se		74
C	Shi		70) 89) 90, 91) 103
Ce	S		70)
KuDaCe	S		58)
Ce L Go La			155)
χ La Vo L			157
ui T Hu La			154
aJeN Ta VyLa	N	}	153
Nu Te iRa	N	}	
Sa M S Ha L		}	155
tShaN Ds a La		}	
CuRuSa M Ga			160)
C RoS TsHuha			159
uScaM Z Ha			160) 158
Z a Lai			78
elleM Co LLe	S		69)
iri Go Lo	S		68
Co LLe	S	}	66
C La	S	}	
Co Ly	S		67
i Li	T		147
Hi	T		150
Ce	T		151
Ci	T		148, 152
Cu	N		136
Ga	D Zhe		166)
	D Zhi		164
Ca	DtShi		108
Co	D Shi		109
Co u	N Shi		147
Co iu	N G		125
HoMi	NiS	}	22
HoMo		}	
Ho	N S	}	27
Jo Mi		}	
CyMy	N	}	137
Cy	N	}	
CuMu	N G	}	135
Cu	N G	}	
Ne Ri			45
Ne ReSh			170)
TsHerioL			8
TsHi L Ve C	S		43
TsHe Lo VieC			1, 5, 11, 12
TsH Lo VieC			2, 4, 7, 10
TsH Io VieC			3
TsH Lo Vi C			6, 9
TsHi L e C	S		44
Ts Mo GuS			42
TsHe Ke Vi			53
TsHu G			111

	TsHu			117, 119
	TsHe			49
ts ho	TsHi			48
	St e		G	114
	St a		G	116
	S ie		K	115
	S He		χ	85
	He		Ka	118
		La	χ	79
		Le	G	80
	LaKi	La	Ki	184
D Ui	Ne			17
D	i N			18
D	e N			14, 19
	e N			} 63
eDe	M			
S	i N			64
aDeMi	N			65
uDoM				82)
aDaM				48) 81, 89) 93)
aDeM				76) 77, 85) 88 94) 102, 105
aD Mi				167, 169)
TaVo				186, 187
RoM				166)

Changes in the Word HAIR.

Fa			164	Pa	R	Pe	Comanche	
Mu			77	B	Le	BeN	14	
Pe	I		29	Ve	Li	SoC	12	
Mu	I		92)	Pa	I	CaoP	67	
Mo	I		76, 102	P	La	u Cai	42	
Ma	Lia		21	Bo	h	o C	187	
Ma	Ou		China	Bu	a	C	186	
Py	R		46	Fu	Ne	χe	163	
Pa	U	}	27	Pu	N		192	
Pe	L			Pe	S	Cennet	115)	
Va	L		167	Ma	Z		107	
Ba	L		169) 177	Ma	z	Da	171)	
Mo	Ria		190	Ma	t	Ti	43, 44	
Ba	La		166	Be	d	SHe	116)	
uWa	Ra		Tuscarora	Pa	t	u	110	
Pi	R	Su	Penobscot	P	te	Da	131	
P	Ru	Sa	Robber Di.	oP	ti	Da	130	
Ba	Ra	S	72	oB		De	134	
Wo	Ro	NG	Lake Mac.	iB		De	133	
U	Ra	N	Wellington	aP		Ty	132	
U	L	Lea	15	oP		Te	127, 129	
Vo	L	T	17	oP		T	126	
Vo	Lo	S	11	aUo		T	73, 74	
Vo	Lo	Se	0	oP		Ta	} 71, 75	
	Ra	S	114	oBi		T		
CaZhe	Re	SH	51	uPa		T	72	
	Le	SH	45	HoP		T	130)	
	Lo	SSi	6	nGaP		Ta	125	
V	o	SSo	7	nGoP		T	122	
V	Lu	SSe	9	ngeeP		Ta	} 121	
V	La	S	1, 2, 4, 5)	GyP		Ty		
V	La	S }	3	GeP		T	120	
P	Ra	M }		C O		D	49	

C O Do	53
C A DzH	115
K I to NG	Sidney, &c.
G I to NG	Liverpool
G I a N	Bathurst
KuBonau	Moreton B.
K Poa Ti	Mexican
G U I TsChil	Mexican
A Ro Chia	Onondago
C O nuoχ	13
G Ra GG	16
G I o Go	200
χ I R Gi	188)
C Y L	88
H A LaL	48
χ A I	47
H AaR	33, 34, 35
H AiR	32, 40
H A R	38
H Oi R	41
H O R	31, 37, 39
H O R	Huron
K Ui R	Huron
cHeVeU X	28
KaPi L Le	24
KaPe L Li	23
KaVeL Lio	25
KaBeL Lo	26
GoA L T	18
KaB a D	186)
KeV o Dio M	193
G U BiN	160
C A R B	55)
C U I Ba	158
Ci R BiT	157
CyPy H UiR	153
G U Ru G U Ru	197
U Ru U Ru	197
Lo U Ru	196
H U Ru	191
U Ru	196)
Ca L Ga SseN	137)
tJe L Ga D	155
nJ U Ri C Tu	138, 141
C Ie C U L Ta	87
H I N Ga R N	149
χ I N Ga R N	150
χ I N Ga	152
aG O n s Ko	Hochelaga
Ce Tj G URi	154
tJe Ra χe R	159
tJe RoN	159
nJ U Ri C Ta	139
mJ U Ri C Ta	140, 146
nJ U Ri T Ta	143
nJ U Ri Ta	145
n U Ri T	144
in Be Di C Ta	142
i C Te	78
n O G U N	136
U H U N	136

	esa	R	C	U	N	}		
	dsi	c	C	U		}	79	
	zi	B	Ca			}		
		B	u	Ca		}		
	Hi	U		χi		}	54	
	Hi	U		C	SeT	}		
	i	U		s	SeD		55)	
		U		s	SeN	}	137)	
		y		s	SeN	}		
		i		C	S To	}		
				C	S To	}	Mexican	
				C	Si L	}		
				Co	S Se		3	
				Co	Sa	}	5	
	Ci			Ca		}		
	C		RaNs				27)	
	C		RiNis				22	
	TaG		L				29	
	TaiK	U	L				Peel Riv.	
	Ti	a U	R				Muruya	
	T	Je	R				61	
	T	Ja	Ra				117	
	T	J U	L				168	
	T	J U	Ly				169	
	D	J O	R S				60	
	D	J O	R Si				81	
	D	Ji	R Si			}	65	
		e	R Si			}		
	T	sa	R			}	85	
	ShiGa		R			}		
	Shi	ie	R				62	
	Ze	Ga	R			}	84	
	Sa	a	R			}		
	Se	a	R				81	
	Si	a	Ru				83	
	eZ	Ha	c	Ce				
	dZ	Hi	c	Ca				
	⊖i	Ga					Nagailer	
	⊖ie	Ga					Chipewyan	
	T	Je		χ				
	T	U	c	Cu				
	T	U	c	CasaB				
	T	U	c	Ca	P			
	To		N	Ge			151	
	T	Ue					128	
	Ts	H Ua					114	
TLoTs		U					118)	
	Ts	H Me					119	
	T	Ma					108	
	Tum	Me					Waccoon	
	To	Ma					109	
	oTo	P					102	
		Jo P				}		
		u P				}	63	
		i P				}		
		u Vo					199	
	Sa	Pi					88	
	Sa	B					71)	
	Za	B					50, 52	
monZa		Bo	N				Souriquois	

Sa U	TsH		}	99
tS Ha	TsH			
S Ho	sH			97
tS Ha	TsH			96, 98, 101, 104
Sh Ha	TsH		}	111
u χ^a	T			
Si o	Ts			27
tS He	Ts	LeR	}	89
tS He	Ts			
tZ a	Ts			90, 94, 95
S a	TsH			92) 93, 103, 105, 91
S e	S			91)
S y	S			64
yS	Sy		}	135
NoS	Sy			
oT	Ta			66
yT	a			123
yT				124
aT				66, 68
oT				69
aS				109
aeTi				Vogul
NuiaT				Kuskatchewak
Nuia K				Labrador

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uPo		191, 196, 199
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eoPo		195
uMa	}	Quichua,
hoMa	}	S. America).
Bo PPe		Florida Waccoon.
Bo PPe		Yaoi.
BouPou		Carib Islands.
oPouBou	}	Carib of the
ouPouPou	}	Spanish Main.
Pao P		162
Vo Ba		7
Uai Ve		58
Bui		63
Pei		18
Poi		54)
Pee		55
Pie		56
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Wi Le	}	Indian.
Wi L	}	New Sweden or
Wij R	}	Sankikani in
WyeR	}	N. America.
MaaR		118
Mie R		118)
ie R		65
e R		65)
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oLol	126	
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BuRua	Basque.	
PuRa	Australian, Peel R.	
PoLl	English.	
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Po NCe	69)	
Pa NGa	67	
Pa NCuN	66	
Be CeR	57	
Be Gke	Aymara, S. M.	
Pa Ccha	} Yarura in	
Pa Cchu	} South America.	
Pa Cuacua	Mobima, S. Am.	
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aC aNG	Suaransch.	
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iCaii	Mocabi.	
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Hō	F	T		34
Heo	Fo	D		31
Hu	Vu	D		39
Hō	Fu	D		38
Ho	Be	D		37
Ho	P	D		40)
Ai	Va	Da		130
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tJe		Ro	}	
s e		Ro	}	166
χe		Ro	}	
oG		Lu		70)
uGo		L		72)
eCa		R		79)
Ca		R		76, 77, 102, 167
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		Ne	Mai T	} Abipona,
		Na	Pa NC	} South
		Na	Ma GaT	} American
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		Ka		Vi	}	
			Ta	Bi		108
			Du	P		Mohegan
			aDa	Ma		161
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		Ga	P			13
		Co	P			40
		Ga	U			180
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	Te	Na	Ca	M		156
	Do	Lo	Ci	N		145
	a	R	Ce	M		70)
	T		Cu	M		110
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	ɵie					Naguiler
eDɵie						Chippewyan
TeNeTɵie						Hudson bay
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Re Sho		84
Rei Sho		83)
Rui S MaN		171)
Ra S		86
Ro Sh		81, 82 (Hebrew)
RaaS	}	85
ReeS		
ReoS		83
Ro Sa Ca	= "my head" in	Betoi, S. Amer.
Na e sMu		Othami
Na		Mexican

Some of the Phases of the Word HAND.

EeSe		Peru, Chequito.
iS		Lule, Paraguay.
iSiG	}	Villelue ,,
iSi P		
Po		
Poo		
Poh		
Mbo		Brazilian Tribes.
eMe		
GePo		
cHoPa		
iccHi Mo	}	Lower
iccHi		Orinoco
uCaBu Ho	}	Carib Isles
NouCaBo		
Nu CaPe		Maypure
La GeBa		165
χ^aMaRa		124
CuMuR	}	48, 57, 42
CeVeR		
C UeR		50
χ^e iR		20
χ^e Ri		21
χ^i Ria		12
C Y R		117
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C O L		98, 99, 42)
O L		86, 42) 89)
C U L		90, 94, 89) 91) 104
Ca L		95, 96, 97, 101, 91) 105, 101) 102
χ^a L		94
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Ga Le	}	140
N e La		

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N a La 142
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NGa L } 144, 145
oNCo C O L }
CeNGa R 150
CeNGa Ra N 149
Mi NaGi LGe N 163
Mi N Gi La N 157
CoNMeN χ La N 156
MyN Ga Ga TZ 154)
χ Ca TSh 158
χ Ce TZ 155
Ca Z 118
C χe Zi } 54
tsHe Si }
Ji T 85
Ci Z 47
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C O Ta }
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Ci T 71)
Ci To 125
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C U L G } 115
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C Ui C } 114
C U Ci }
C U χ 80
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C U U Gh }
C U U } Araucanian
C Ue }
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	tSeR	N	} 117
	tSeR	C	}
	DoR	N	19
	DuR	N	14
	D Ra	Na	17
	D RieH		86
	DoR		45
	Te	C	162
	Na	C	119
	To	GoN	151
	To	oN	152
	To	No	159
ShTo		N S	154
aN		GoShT	} 76
T		eS T	}
D		aS T	77
D		eShT	102)
aD		eSh	100)
D		uS T	109
T S		eS Te	110
S		HeShT	77
		HaS TaM	172
	L	aSh	78
	Lee		180
	iRi		134)
	Tai		182
	Te		161
	uDa		121, 120, 75
	iDa		84
	eDa	}	81, 82, 83
	eD	}	
FeN		}	86
iT		}	

Many of the above combinations are proven by the fact of their occurring in the same language, the same group of dialects, or the same group of well studied alliances. Many others are easily disproved by criticism, being mere coincidences. And many are probably misplaced, as to the range of their radicals in the vertical rows, and might be placed to far better advantage to exhibit the law of insensible gradation. But the reality of the law is seen from these tables to be indisputable, and the further multiplication of tables will but heighten the illustration of the law. Arrange any one of the words of the Parable of the Prodigal Son, translated by the Antiquarian Societ of Paris into the seventy or eighty local dialects of France, and the law is at once established. The most incongruous and dissimilar forms are seen to be organically derived from one another. The French words *fils* and *garcon* and the English *booby* are but widely separated

fragments of a series of forms regularly graded like the words of the preceding tables. Bou-eBe, Bou-Be, Fiu, Fieu, Fi, Fe, FaiL, FiL, FiL-G, VaL, VaLeT, FaNT, afFaNT, eNFaNT, eNFaN, afFaN, aFaN, eFaN, eFoN, MeNioT, MeNeGe, MaiNaChé, G-aR-ChéeN, GaRChouN, GaeChoN, GaiChoN, GouGeaT, GouiaT, Gouia, GaRCouN, GaRCoN, GaSSoN, HiL, and an abnormal form DRoLei, belonging to some other series, or to a part of this series too distant to appear more than this once among the French patois; in fact a word bearing the same relation to the English DRoLL that FiL does to FooL, that Boube does to Booby (German Bube, Boy), &c. &c. The most interesting point of this series is the change of FiL to HiL, through some lost form H'FiL or G.FiL, the reverse of which still remains in FiL.G, MeNaGe, &c. This lost form is found in other languages; as in the Dshar Lesguis Caucasian KiMiR, Child, contracted in Hungarian (as in French patois) to Gi'eR-mek, child. In the Lesguis Antshong and Chunsagh, on the contrary, we have TiMiR, the original, so to speak (through Ti'eR), of the French patois DRoLei; as in the Georgian Suaneti we have BoBosh (Imeritian Boshi) to explain the French patois BouBe, a contracted repetition of the original Hebrew form BaR-BaR, the diminutive of BaR, boy.

Stated Meeting, November 18, 1859.

Present, eighteen members.

Dr. Wood, President, in the Chair.

Judge Carleton, a new member, was presented by Dr. Bache.

A letter was read from Dr. W. A. Hammond, U. S. A. dated Fort Mackinaw, Michigan, Nov. 5, 1859, acknowledging notice of his election.

The following donations for the Library were announced:—

Journal Franklin Institute, No. 407. (Nov.)—*From the Institute.*

African Repository, XXXV. No. 11. (Nov.)—*From A. C. Society.*

Columbia College Annual Catalogue. 1859-60.—*From the College.*

Inau. Addresses by T. W. Dwight and G. P. Marsh.—*From the same.*

Pasigraphie mittels arabischer Zahlzeichen. Ein versuch von Moses Paic. Semlin, 1859.—*From the Author.*

Natural Philosophy, by B. Hobson, M. D. London Miss. Society, Canton, China; in Chinese, unbound.—*From Dr. F. Bache.*

The death of M. Guillaume Theophile Tilesius (elected 1819), a member of this Society, was announced by Dr. Bache.

On motion of Dr. Bache, the following biographical notice of John Reynell, read June 17, by Dr. B. H. Coates, was ordered to be printed:—

The writer of this was, a few years since, invited by a deceased president, to furnish to this Society a brief notice of the above named member, for preservation in the archives. He has done so, in part out of reverence for the wishes of the distinguished individual alluded to, but also partly from a conviction that it is useful and honourable, in associated bodies, to procure and retain such memoirs. "Stare super antiquas vias" is pre-eminently the motto of learned incorporations; and, if it be thought to contain within it much that is objectionable, let us not fail to gather from it its proper and praiseworthy fruits; among which are stability, moderation, impartiality, and the opportunity of benefitting by the example, for good and evil, of those who have preceded us.

John Reynell was the son of Samuel and Sarah Reynell, and was born at Bristol, England, June 15, 1708, old style; but was brought up at Exeter, in Devonshire, the residence of many of his relatives, at which individuals among them continued to reside after his death. His family was, at one time, of some note;* and several branches of it are said still to hold liege landed possessions. He was designed and educated for a merchant; and was sent, in a commercial capacity, to reside in the Island of Jamaica, at the early age of eighteen years. His advisers appear to have set as high a valuation on the activity of youth as is done at the present day; and Young England, in him, to have not been inferior in enterprise to Young America.

He was at that time under strong religious impressions. At his removal to Jamaica, he is found a member of the religious Society of Friends, in which it is inferred that he had been educated. He was diligent in the attendances expected of him in his religious connexion, and in efforts to obviate breaches of morality which he believed to be

* Barbe's Commoners; IV. pp. 446, 456. &c.; and Fuller's Worthies, Article Devonshire. Sir Richard Reynell defended the City of Exeter and Launcester Castle for Richard Cœur de Lion, against Prince John, afterwards King John Lackland. Sir Hugh Reynell was a Master and Governor (not to be confused with Grand Master) among the Knights of St. John of Jerusalem, A. D. 1275; and the small harbour of Port Renelle, in the Island of Malta, received its name from this Knight, and still retained it in 1838.

too much indulged in the island. These were chiefly connected with slavery, illicit intercourse, and intemperance. He was not an unqualified opponent of slavery in all cases and under all circumstances; and retained one slave with him in the United States to a very advanced age, tolerating and comforting many infirmities and eccentricities. The efforts and remonstrances of John Reynell in Jamaica were not well received; and it was in consequence of this that he ultimately settled in Philadelphia in 1728.

In our city, he soon acquired the confidence of his acquaintance, after a moderate interval, a solid and commanding character, and, finally, a rapid success. After another interval he assumed a style of liberal hospitality, and maintained a large establishment; and he closed by an adequate provision for those dependent on him, damaged only by the derangements in business caused by the war of the revolution. By far the most important of these was the receipt of debts in paper money; Reynell, in common with all Quakers, and many others, not being willing to descend to the payment of his own obligations in the same imaginary representative of value.

John Reynell was not an ambitious man; and by no means betrayed eagerness to have his name frequently before the public in connection with politics or corporate bodies. It occurs in but few instances, and he seems to have acted on the principle ascribed to Cosmo de Medici and President Jackson, never to seek for public office, but only to accept it when the undeniable wish of their fellow citizens. He may have been of opinion that his time was better bestowed, first, upon his private affairs, and then upon institutions in such limited number that he might feel confident of giving adequate attention to the service of them all; rather than upon a diffused mass of objects, exposing him to the risk or certainty of occasional neglects. I have found records of him in only two or three of the incorporations of the city. Of these, two were literary, and the third, charitable, the American Philosophical Society, the School Corporation established by Penn, and the Pennsylvania Hospital.

Of the body I have now the honour to address, he was a foundation member; having been elected to the branch styled "The American Philosophical Society," and of which the president was Governor Hamilton, January 26, 1768; and becoming a member of the joint society by the union of the two original bodies, January 2, 1769. By this election of a man of sixty years of age, and much occupied with private business and the affairs of a religious body, and that during the short interval between the stamp act troubles and the more imme-

diate movements towards a civil war, it is not likely that the Society expected direct labours in the way of philosophical research. It is a high and valuable testimony of esteem for the man, and implies the ascription of character and influence.

The corporation of "Overseers of the Public Schools founded by Charter, in the Town and County of Philadelphia," but supported exclusively by private munificence, has never appeared to court popular applause, but has been long known to many among us for unobtrusive usefulness. It is not forgotten in the maintenance of a series of schools, distributed through the city, and intended for the instruction of the middle classes, as well as for the education of a number of the poor, whose reception of assistance from charitable funds was kept a profound secret even from themselves. So careful have been the Overseers to preserve that self respect of the unfortunate which has been deemed by philosophers the best safeguard against the increase of pauperism, that, in place of enjoining, as has been the case in some parts of the world, the observance of an absurd, ugly, antiquated and ridiculous uniform, care was taken, on the other hand, that no peculiarity of dress should distinguish them from their more prosperous companions; and if necessary, the parents of these children were aided in procuring for them the materials for a decent and respectable appearance. The institution was also known for the support of a Latin and Greek Seminary, which, till a period not far remote, was acknowledged to be the best preparatory school for college in this part of the United States. A learned and eminent writer in an inland town, has lately stated to a sister society that he had not heard much of the eminent men educated at it. There has been, until about the last thirty years, but little of what was eminent in our city that did not owe an important part of its education to the Quaker School, in Fourth Street; and in many cases, it furnished all, with the exception of professional instruction. It is not universally known that it furnished many courses of lectures on popular science, and carried its care for astronomy and its liberality in the supply of instruments, and the employment of observers so far as to furnish, for many years, the only observations made in this country, fit to regulate ships' chronometers. For this I quote the report of a Committee of the Councils of New York. It has not found equally favourable notice in some of the histories of astronomical labours in this city.

John Reynell was made a member of this body October 8, 1742. He became Treasurer in 1760; and his services, and those of his predecessor, John Kinsley, furnish a curious instance of the customs

of the men and of the time, and perhaps a lesson not without utility at the present day. I have collected it from a careful examination of the minutes of the board. Kinsley had fallen into the slow illness which was ultimately the cause of his death. His habit of mutual and implicit confidence with the board, together with his illness, had occasioned his accounts to grow a little behind hand in settlement; but instead of this giving rise to the retention of money belonging to the Institution, as has been charged in some well known instances, it had the reverse effect of inducing him to advance his own funds for the public service. In the first instance, friendship, and afterwards the instructions of the board, induced John Reynell to assist him, both by settling his accounts for him, and by advancing Reynell's funds for the common service; both of them feeling that the charitable and educational institution must not be allowed to suffer. At length, on the demise of the old and confidential Treasurer, a minute of respect and regret was recorded; but no successor was appointed, and business, when occasion offered, was only referred to John Reynell to fulfil the duties which belonged to that office, until, at length, and as if accidentally, repeated recognitions of him in that capacity had taken place. It may be fairly asked whether modern changes in such habits have given rise to much improvement.

Of the Pennsylvania Hospital, John Reynell was also Treasurer, and was the original one, having been elected during the organization, July 1, 1751, new style. At the annual election, in 1752, he was removed from the Treasurer's office, to be made a manager; and his place was supplied, in the prior capacity, by Charles Norris. We may imagine that he here also acted upon the principle of not undertaking too many duties; and he may have thought that the Treasurership, which he had been exercising in the manner we have just described for the previous two years, was sufficient. He was continued manager for twenty-eight years, and for the last twenty-three of them as President. He declined re-election at the annual meeting in 1780.

During the troubles which preceded the revolutionary war, John Reynell acted in a manner consistent with his character. He was a whig who disapproved of civil war. His name appears signed to the Address of the Merchants of Philadelphia to the people of the Colonies, against the Stamp Act. Deeply imbued with a sense of the destructive tendency of all military struggles, and of opinion, as he repeated it, that the worst of all wars is a civil war, he could not in any way promote the sanguinary struggle with England. In peaceable resistance, on the other hand, he was active and persevering; and he

believed it possible, by non-consumption of British manufactures, to compel a just respect to colonial rights. The present writer does not here enlarge upon this fruitful topic. Much may be said in favour of peaceable resistance; and to show that, if the United States had not been separated from England, it would have been preposterous for the latter power to pretend to tyrannize over them, that many valuable sources of advantages would have been preserved, enormous destruction avoided, and that at a day not far removed from the present time, the gigantic colony would have superseded the parent as effectually as Syracuse did Corinth, Carthage Tyre, Athens the Egyptian or the Hellenic Thebes, or Rome Alba Longa.

John Reynell remained in Philadelphia during the whole war, and preserved the respect of every one, but was certainly not in the war to achieve political glory. Commerce was effectually superseded by the blockades and hostile occupation of the city; and when peace was restored, the energies of a man of seventy-three years of age could not be expected to push it to any active rivalry with younger men. Three or four years before the close, he took a nephew of his wife into partnership; and some two years later, transferred the remainder of his business to his younger partner. His death took place by a gradual decline of about four months, with little definite disease, and which terminated September 3, 1782. In his last confinement he was attended by his friends Drs. Kuhn and Foulke.

He was married, April 15, 1756, to Mary Nicholas, widow of Samuel Nicholas, and daughter of Thomas and Beulah Coates. By this connexion, he had four daughters and a son; all of whom, however, died in early infancy, except a daughter who nearly attained the age of fifteen years. Mr. John F. Watson records the death of this young lady by drowning, in that branch of Dock Creek which crossed Chesnut street below Fourth street, near or at the ruinous bridge. Mr. Watson is unable to give me his authority for this. I find no mention of it in the newspapers of the time; the reports of the grand juries are not easy of access; and I have no tradition of the circumstance. The record in the family bible merely relates that she died "early in the morning."

As far as has been gathered from incidental indications, John Reynell appears to have been of the middle size, of considerable bodily powers, very good health, and a dignified and imposing aspect. His manner was grave, quiet and somewhat taciturn. His signature is bold and masculine; and resembles that of John Hancock. There is no portrait of him. Although conforming to the requirements of

the religious body of Friends, in preserving a plain appearance and using sober colours, he did not observe any peculiar dress, or deviate in any remarkable degree from the custom of the time. He used snuff and smoking tobacco freely. He did not advocate abstinence from wine, or even from ardent spirits; but was earnest in enforcing moderation and temperance.

His mind, naturally endowed with great energy and decision, was cultivated upon antique models; and he had read history, "Stare super antiquas vias," though not quoted, was evidently the basis of the acquired part of his character. He was not without prejudice in favour of birth, and advised a young person to connect himself with "a good stock." He had great confidence in character; aimed at it himself, and praised it and confided in it when met with in others. He was eminently moderate, steady and permanent in all his views. This extended to commerce, which he considered as the business of a man's life, and a thing that ought to be habitual. He does not seem to have aimed at accumulating a large fortune. This is shown by his liberal housekeeping, and the extent of his contributions to charity. During his last illness, it was unexpectedly discovered that, in addition to liberal contributions of every sort, he had, for many years, distributed among the poor an amount equal to one half of all his expenses of living, in absolute and total secresy.

Commerce was steady and profitable; speculation scarcely existed; and there were no banks. But he was equally liberal of his time in the service of others. Besides the secret investigations of poverty just alluded to, and the service of institutions, he was more remarked for healing differences among his neighbours and acquaintance than perhaps any other man, and his awards were almost always adopted as decisive.

His personal influence was very great; and several of our most eminent citizens placed their sons with him, to live in his house, according to the custom of the times, in order to acquire a knowledge and the habits of commerce. Among these elèves were Dr. George Logan and the noted Timothy Matlack.

John Reynell had read extensively; was by no means indisposed to wit and satire, and valued the writings of Swift. He was aware of the value of science, as may be judged from his adhesion to this Society; and his name appears among the subscribers to our first volume.

At his death the most honorary mention of his usefulness and high

character was made public from the most diverse sources; and the general love of the citizens attended him to the grave.

Pending nomination No. 394 was read.

No quorum for the enacting of laws being present, the special business of the evening was again postponed; and on motion of Mr. Foulke, the Secretary was instructed to give special notice of the fact to each of the members and request a punctual attendance at the next meeting.

The records of the last meeting of the Board of Officers and Members of Council were read.

On motion of Dr. Harris, the Committee on the Hall were instructed to place a new carpet on the hall floor.

And the Society was adjourned.

Stated Meeting, December 2, 1859.

Present, thirty-three members.

Dr. Wood, President, in the Chair.

The Hon. Wm. B. Reed was presented by Mr. Fraley.

The following donations for the Library were announced:—

Gould's Astronomical Journal. No. 129.—*From the Editor.*
Jour. Soc. Arts and of the I. in U. May, 1859. Lond.—*From the Soc.*
Das Astronom. Diagram; von Dr. Prestel, 1859.—*From Dr. Wilson.*
Academic Fallacies by H. Coppée, Phil. 1859. 8vo. p.—*From the Aut.*

The reading of Mr. Durand's obituary notice of Mr. Nuttall was postponed to the next meeting.

The death of Washington Irving, aged 76 (elected a member April 17, 1829), at his residence, Sunnyside, on the Hudson river, Nov. 28, 1859, was announced by Dr. Bache, and on motion of Dr. Elwyn, Prof. Coppée was requested to prepare an obituary notice of the deceased.

Mr. Dubois offered for the inspection of the Society, two of the golden images lately found in the Indian graves, at Chiriqui, in Central America. Both of them have been assayed at the Mint, and they are reserved as a part of the Mint Cabinet. The one of reptile form is

807 thousandths fine, and its intrinsic value is near thirty-five dollars; the bird is 627 fine, and worth nearly eight dollars.

Some interesting matters of fact may be deduced from these curious relics; which, from the small rings or loops attached to them, and from a consideration of the customs and superstitions of ancient heathen nations all over the world, may be believed to have been worn upon the person both as ornaments and talismans, and as such sacredly deposited with the owners upon their decease. We must assume that these images were manufactured before the Spanish Invasion, and they may belong to a high antiquity.

It appears then, that the ancient Indians were familiar with the mining and metallurgy of gold; and if not very elegant designers, could make quite respectable castings. They also knew the relative values of gold and copper; or they would not have troubled themselves to introduce copper so largely into these sacred emblems or images, and then covering it up with a pickled surface. For it must be observed that copper is not a natural alloy of gold, as silver is; yet we find in one of these specimens a large proportion of copper. And in a considerable quantity of these images, lately melted down at the United States Assay Office in New York, the proportion of the mass was 788 parts gold, 190 parts copper, and only 22 parts silver. Another curious fact is, that they were acquainted with the process of *pickling*, or biting out the alloying metals from the surface, so as to leave a golden exterior. This is specially observable in the reptile specimen; and many years ago, we noticed the same circumstance, in relation to similar images found in the mounds of New Grenada, and shown at the Mint; now in the collection made by the late Jacob G. Morris, Esq. As the ancient artists had no knowledge of the mineral acids, they must have employed certain native salts, such as sal ammoniac and the nitrate of soda, to produce the desired effect.

Central America is a gold-producing region, and formerly we received considerable quantities of gold from that quarter. It was always in artificial laminations, resulting from a process of parting the silver alloy; whence we infer that the gold naturally is considerably alloyed with that metal. The addition of copper is always of man's device; and with a judicious proportion of silver, as jewellers understand very well, a good gold colour is maintained.

The fact that all these images seem to be in the form of reptiles and birds of prey, real or fanciful, leads to the idea that they were meant to propitiate such creatures as were most likely to disturb the repose of the dead.

Mr. Peale presented at the same time for the inspection of the members, another gold image, the surface of which bore no marks of the pickling process, which had been in his possession many years, and may have been obtained from the same localities.

The Annual Report of the Treasurer was read; and that of the Committee of Publication postponed to the next meeting.

Pending nomination No. 394 was read.

The special business of the meeting was then taken up, and the amendments to the laws recommended by the Committee in their report read May 6, 1859, were adopted with some few exceptions, pending the discussion of which the Society was adjourned.

Stated Meeting, December 16, 1859.

Present, thirty-three members.

Dr. Wood, President, in the Chair.

The following donations for the Library were announced:—

Journal of the Franklin Institute. No. 408.—*From the Institute.*
Medical News and Library. No. 204.—*From Blanchard & Lea.*
Journal Boston N. H. S. Vol. VII. No. 1. 1859.—*From the Soc.*
African Repository. Vol. XXXV. No. 12.—*Amer. Col. Society.*
Smithsonian Report for 1858. Sen. Doc.—*Hon. Thos. B. Florence.*
Cat. Library, Mass. Hist. S. Vol. 1, A–L. 8vo.—*From the Soc.*
Boston Pub. Lib. VII. Ann. Report. 1859. 8vo.—*From the Libr.*
Second Supple. to Index. Oct. 20, 1859. p. 8vo.—*From the same.*
Cat. Farmers' High School. Penna. 1859. 8vo.—*From Dr. Pugh.*
Prospectus Phila. and Europe. Steam Ship Co.—*From Cap. Randall.*
Quar. Journal Lond. Chem. Society. No. XLVII.—*From the Soc.*
De turcarum linguæ indole ac natura scripsit F. L. O. Roehrig. Pamp. 30 pp. Philadelphia. 8vo. 1860.—*From the Author.*

The reading of the obituary notice of Mr. Nuttall by Mr. Durand, was postponed to the next meeting.

The report of the Finance Committee was read, and the

appropriations therein recommended for the ensuing year were ordered to be made, viz:

For Journals, . . .	$50
„ Hall, . . .	300
„ Binding, . . .	50
„ Publications, . .	500
„ General Account, .	1800
Total,	$2700

Pending nomination No. 394, and new nominations Nos. 395, 396, were read.

The Annual Report of the Publication Committee, postponed from the last meeting, was read.

The Committee on the sale of the Hall reported the following recommendation, which was adopted:—

Resolved, That the President be requested to prepare and cause to be presented to the Congress of the United States a respectful memorial, in the name of the Society, setting forth the facts connected with the sale of the Hall of the Society to the United States, the action of the Officers of the Government thereon, and the authority given by Congress to sell the Hall as the property of the United States, and requesting the passage of a law directing the acceptance of the conveyance tendered by the Society for said property, and the payment of the purchase money due to it therefore. Signed F. Fraley, Charles B. Trego, Isaac Hays, W. Parker Foulke.

The resignations of Henry A. Boardman and George M. Wharton, members, were again read and accepted.

The deferred special business of the evening being in order, Judge Thompson's amendment to Mr. Fraley's substitute was discussed, and both amendment and substitute adopted.

Amendments to Chapter VII. were then adopted, and the Society adjourned.

Note. The Laws of the Society as amended will be printed immediately, with a list of members, uniformly with the Proceedings, so that those who desire to do so, may bind them in with the current Vol. VII.

Errata in No. 60 (Vol. VI.), and No. 61 (Vol. VII.), of the Proceedings of the American Philosophical Society.

No. 60, (Vol. VI.)

Page.	Line from top.	CORRECTIONS.
348	31	For "practic*al* observer," *read*, practi*sed* observer.
350	13	After "Minoris)" *add the word*, north.
364	40	At the end of the fourth line from the bottom: for "0*h*. 02*m*. 53*s*.76," *read*, 0*h*. 02*m*. 53*s*.763.
369	10	For "00*s*.03," *read*, 0*s*.003.
372	6	At the end of this line: for "+ 0*s*.251," *read*, + 0*s*.256.
379	14	After the word "day," place a comma.
"	"	After "(July 3d.)" erase the semicolon, and substitute a comma in its stead.
387	8	At the end of this line: for "104*m*. 42*s*.16," *read*, 4*m*. 42*s*.16.

Page.	Line from top.	CORRECTIONS.
29	28	For "γ Leonis," *read*, γ' Leonis.
32	32	For "07," *read*, .07.
37	16	For "(at 12*h*. 34*m*.)" *read*, (at 12*h*. 24*m*.)
47	1	For "station," *read*, stations.
48	19	For "36*m*. 34*s*.04," *read*, 36*m*. 34*s*.4.
50	19	For "(at 20*h*. 86*m*. 38*s*.44, &c.)" *read*, (at 20*h*. 36*m*. 38*s*.44, &c.)
58	14	For "12*h*. 16*m*. 53*s*." in the second column from the left hand, *read*, 12*h*. 16*m*. 52*s*.
62	11	In the fourth column from the left, for "9*h*. 02*m*. 08*s*.24," *read*, 9*h*. 05*m*. 08*s*.24.
65	28	For "astronomidal," *read*, astronomical.
67	22	For "1851," *read*, 1858.
74	30	For "+ 8′ 30″," *read*, + 8′ 20″.
82	43	At end of bottom line, for "6*h*. 02*m*. 13*s*.03," *read*, 6*h*. 02*m*. 13*s*.30.
85	30	In the last line of the fourth column from the left: for "10*h*. &c.," *read*, 11*h*. &c.
85	44	In the second line from the bottom, and in the fourth column from the left; for "10*h*. &c." *read*, 11*h*. &c.
89	28	In the first or left hand column: for "11*h*. 22*m*. 10*s*." *read*, 11*h*. 22*m*. 00*s*.
95	8	For "(at 4*h*. 08*m*.)" *read*, (at 5*h*. 08*m*.)
109	35	For "(at 12*h*. 11*m*.)" *read*, (at 11*h*. 12*m*.)
118	10	For "4*m*. 43*s*.63," *read*, 4*m*. 44*s*.64.
„	44	Bottom line. For the sign — (minus), *read*, + (plus).
105	27	
106	5	
„	6	
„	34	Bottom line.
108	2	
„	3	
„	6	
115	22	
„	23	For "Capital," *read*, Capitol.
„	36	(Foot note.)
117	20	
„	21	
„	25	
119	2	
„	3	
„	11	